

## Abstract

The invention relates to an arrangement for a junction between a microstripline and a waveguide, comprising

- a microstripline (ML) which is fitted on the upper face of a dielectric substrate (S),
- a waveguide which is fitted on the upper face of the substrate (S) and has an opening (OB) on at least one end surface and has a structure (ST) which is in the form of a step or steps in the area of the opening (OB) on one side wall and is conductively connected in at least one part (ST1) to the microstripline (ML), and wherein one side wall of the waveguide is a metallized layer (LS) formed on the substrate (S),
- a cutout (A) which is formed in the metallized layer (LS) and into which the microstripline (ML) projects,
- rear-face metallization (RM) which is formed on the rear face of the substrate (S), and
- electrically conductive via holes (VH) between the metallized layer (LS) on the upper face of the substrate (S) and the rear-face metallization (RM), which surround the cutout (A).

(Figure 4)

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum  
Internationales Büro



(43) Internationales Veröffentlichungsdatum  
8. April 2004 (08.04.2004)

PCT

(10) Internationale Veröffentlichungsnummer  
WO 2004/030142 A1

(51) Internationale Patentklassifikation<sup>7</sup>: H01P 5/107

Johannes [DE/DE]; Rainhausstr. 7, 89155 Erbach-Bach (DE).

(21) Internationales Aktenzeichen: PCT/DE2003/002553

(74) Anwalt: DORNIER GMBH; Thomas Meel, LPI, 88039 Friedrichshafen (DE).

(22) Internationales Anmeldedatum:  
30. Juli 2003 (30.07.2003)

(81) Bestimmungsstaaten (national): AU, BR, CA, CN, CZ, IL, JP, KR, NO, PL, SG, US.

(25) Einreichungssprache: Deutsch

(26) Veröffentlichungssprache: Deutsch

(84) Bestimmungsstaaten (regional): europäisches Patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(30) Angaben zur Priorität:  
102 43 671.1 20. September 2002 (20.09.2002) DE

Veröffentlicht:  
— mit internationalem Recherchenbericht

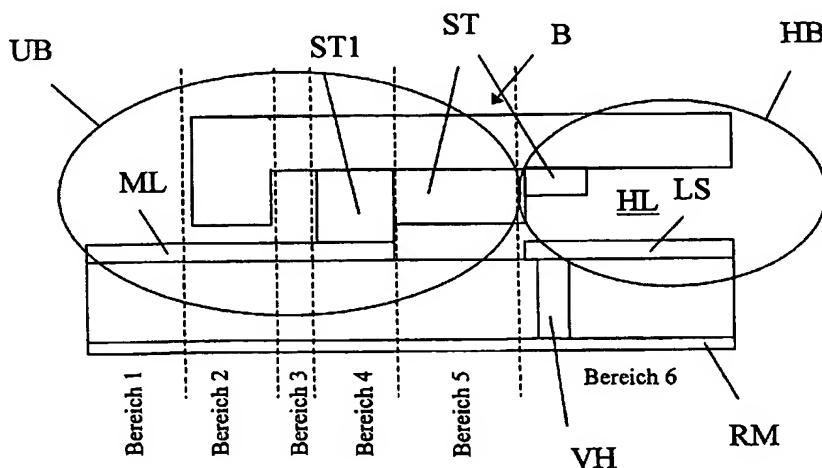
(71) Anmelder (für alle Bestimmungsstaaten mit Ausnahme von US): EADS DEUTSCHLAND GMBH [DE/DE]; Willy-Messerschmitt-Strasse, 85521 Ottobrunn (DE).

Zur Erklärung der Zweibuchstaben-Codes und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

(72) Erfinder; und  
(75) Erfinder/Anmelder (nur für US): MÜLLER, Thomas,

(54) Title: JUNCTION BETWEEN A MICROSTRIP LINE AND A WAVEGUIDE

(54) Bezeichnung: ÜBERGANG ZWISCHEN EINER MIKROSTREIFENLEITUNG UND EINEM HOHLLEITER



BEREICH = REGION

(57) Abstract: The invention relates to a configuration for a junction between a microstrip line and a waveguide, comprising: a microstrip line (ML), which is placed on the top side of a dielectric substrate (S); a waveguide, which is placed on the top side of the substrate (S) and which has an opening (OB) on at least one face and on a step-like structure (ST) provided on a lateral wall in the vicinity of the opening (OB) while, in at least one part (ST1), being conductively connected to the microstrip line (ML), whereby a lateral wall of the waveguide is a metallized layer (LS) provided on the substrate (S); a recess (A), which is made in the metallized layer (LS) and into which the microstrip line (ML) protrudes; a rear side metallization (RM) provided on the rear side of the substrate (S), and; electrically conductive through connections (VH) between the metallized layer (LS) on the top side of the substrate (S) and the rear side metallization (RM) that surround the recess (A).

[Fortsetzung auf der nächsten Seite]